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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,256	03/22/1999	KENJI SUZUKI	PMS-258709	6889

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EXAMINER

CRAIG, DWIN M

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/273,256

Applicant(s)

SUZUKI ET AL.

Examiner

Dwin M Craig

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

1. Claims 1-21 have been presented for reconsideration in view of Applicants Request for Continued Examination under 37 C.F.R. 1.114 and Applicant's arguments.

### Response to Arguments

2. The affidavit filed on 7-14-2003 under 37 CFR 1.131 has been considered but is ineffective to overcome the Fishman U.S. Patent 6,112,133 and Yamazaki et al. U.S. Patent 6,401,004 references.

#### 2.1 Applicant argued:

In the Response filed July 14, 2003, an Affidavit under Rule 131 was filed to demonstrate invention by the inventors prior to the critical date of Fishman. The affidavit was deemed ineffective for several reasons. First, the Office Action requests additional information concerning mapping of the limitations of the claims onto the evidence of conception in the 131 Affidavit filed on July 14, 2003. Second, the Office Action requests additional information concerning diligence from before the critical date of Fishman to the inventors' reduction to practice. Third, the Office Action erroneously suggests that: inventor Suzuki did not sign the Affidavit.

Regarding the signature of the Mr. Suzuki, the Examiner apologizes to the Applicant in regards to stating that Mr. Suzuki had not signed the Affidavit (*paper number 11*). After a careful review of Applicant's affidavit it has been determined that Mr. Suzuki had in fact signed the affidavit.

#### 2.2 Applicant argued:

The Applicants hereby demonstrate, based on the Rule 131 Affidavit filed July 14, 2003 and the supplemental materials provided herein, that the invention claimed in at least present. claims 1-4, and 7-12 was conceived prior to October 8, 1997. Conception of limitations recited in such claims is demonstrated by the tables and flowcharts contained in Exhibit B, which is filed as 131 Affidavit on July 14, 2003 and supplied herewith for the Examiner's convenience. Exhibit B includes 4 Tables, of which Tables A-C are shown on page 1 and Table D on page 2 of the Exhibit B, and 4 Flowcharts A-D shown on pages 3-6 of Exhibit B. Below, limitations in these claims are individually mapped to corresponding flowcharts and tables in Exhibit B.

1. The Tables and Flowcharts shown in Exhibit B directly correspond to Figs. 4 to Fig. 11 (b) in the present US application as well as the corresponding

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Japanese application. These Tables and Flowcharts support the following limitations of pending claim 1:

an analyzing means for analyzing the variable values obtained during the execution of the basic program to determine the efficiency of the machining process; and

a notifying means for notifying the machinist an advisory message regarding how to improve the basic program to generate a final machining program that enables the machining process to perform at the highest speed allowed by the capacity of the machine based on the analysis performed by the analyzing means so that the final machining program is generated by improving the basic program according to the advisory message.

Although remaining limitations recited in claim 1 are also explicitly disclosed in Exhibit B, these remaining limitations are recited in the preamble of claim 1 and are not the main subject matter of this claim.

The Examiner asserts that, Applicant's exhibits support the current claim language, however, it is noted by the Examiner that the mapping of the limitations by the Applicant is being done in paper number 15 and not in an affidavit. It appears that, if incorporated into a proper affidavit, the mappings presented by the applicant in paper number 15, would demonstrate evidence of conception, as required, to overcome the Fishman U.S. Patent 6,112,133 and Yamazaki et al. U.S. Patent 6,401,004 references. As stated, the affidavit must incorporate what is being presented in the Attorneys arguments.

### 2.3 Applicant argued:

The Examiner rejected the Applicant's Declaration under 37 CFR § 1.131, as lack of a showing of diligence from a date prior to the date of reduction to practice of Fishman and the date of either a constructive reduction to practice or an actual reduction to practice. To show diligence from a date prior to Fishman's U.S. Filing date (February 27, 1998) to the filing date of the corresponding Japanese Patent application filing date (March 24, 1998), the Applicants respectfully provide herewith supplemental Exhibit 1-4, with evidence of diligence from a date before Fishman's U.S. filing date to the date of constructive reduction to practice of the present application.

1. Exhibit 1 is a true copy of a letter in Japanese sent from Mazak to a Japanese patent firm on December 16, 1997. Exhibit 2 is a copy of an English translation of the letter shown in Exhibit 1. In this letter, Mazak formally asked the Japanese patent firm on December 16, 1997 to prepare a Japanese patent application corresponding to a designated matter number H09-033

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pertaining to the subject matter disclosed and claimed in the present US application.

2. Exhibit 3 is a true copy of a letter in Japanese, which was issued by Engineering Administration Department of Mazak on March 9, 1998. Exhibit 4 is a copy of an English Translation of the letter shown in Exhibit 3. This letter indicates that a draft specification under the same matter number H09-033 (as shown on low left part of Exhibit 3), which had been revised prior to March 9, 1998, by the Japanese patent firm in accordance with comments provided by Mazak, was sent again from the Japanese patent firm to Mazak on or before March 9, 1998 for another review. That is, the Engineering Administration Department of Mazak received the revised draft from the Japanese patent firm on or before March 9, 1998, and then delivered, on various indicated dates, the revised draft to Mazak's four inventors together with the letter of Exhibit 3 on or after March 9, 1998. As can be readily seen from the letter, the Japanese patent firm provided at least two drafts pertaining to the claimed invention to Mazak from the date of December 16, 1997 to the date of March 9, 1998. In the letter, it is also indicated that a deadline for review (checking) is March 20, 1998 (last line in Exhibit 4). After at least two drafts were reviewed (or checked) by Mazak's four inventors, the application was filed with the Japanese patent office on March 24, 1998. There is no draft of the application, and no letters of correspondence between the Japanese patent firm and Mazak that we are aware of, other than those attached to this letter.

3. Given that the specification of the application is relatively complicated and of a great length, drafting a patent application for the claimed invention took a considerable amount of time. In addition, having intermediate drafts reviewed by four inventors more than once and revised according to the inventor's comments also requires substantial amount of time. Furthermore, having four inventors work together with the Japanese patent firm on initial drafting, reviewing, revising, completion, and eventually filing of the application, all within a short approximately three-month period, demonstrates diligence. Therefore, we believe that the affidavit filed on July 14, 2003 and the supplemental materials provided herewith (Exhibits 1- 4) sufficiently demonstrate diligence during the period from December 16, 1997, when Mazak formally requested the Japanese patent firm to prepare the application, to March 24, 1998, when the application was filed with the Japanese Patent Office.

It appears that, if incorporated into a proper affidavit, the mappings presented by the applicant in paper number 15, would demonstrate evidence of conception and diligence, as required, to overcome the Fishman U.S. Patent 6,112,133 reference. As stated, the affidavit must incorporate what is being presented in the Attorneys arguments.

#### 2.4 Applicant argued:

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Claims 1, 13 and 21 stand rejected over Yamazaki et al. (U.S. Patent No. 6,401,004) in view of Cameron et al. It is respectfully suggested that Yamazaki et al. is not prior art to this application.

As noted in the July 14, 2003 Response, the 102(e) date of the Yamazaki U.S. patent (July 2, 1998) or even the publication date of Yamazaki's base PCT application (May 14, 1998) is later than the March 24, 1998 priority date of this application. Note the translation of the Japanese priority application filed with the July 14, 2003 Response. The priority application supports the claims of this application.

During a telephone conversation with the Examiner between representatives of the Applicants and the Examiner, conducted on October 22, 2003, the representatives of the Applicants and the Examiner agreed that the Examiner's rejection based on Yamazaki et al. is incorrect because the 102(e) date of Yamazaki et al. is July 2, 1998, which is after the March 24, 1998 priority date of this application. Hence, Yamazaki et al. does not qualify as prior art reference.

The Examiner has found Applicant's arguments to be persuasive and if incorporated into a proper affidavit, the mappings presented by the Applicant in paper number 15, would demonstrate evidence of conception and diligence, as required, to overcome the Yamazaki et al. U.S. Patent 6,401,004 reference. As stated, the affidavit must incorporate what is being presented in the Attorneys arguments.

**Claim Rejections - 35 USC § 103**

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**3. Claims 1-9, 13-17, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fishman U.S. Patent 6,112,133** in view of **Kahn et al. U.S. Patent 4,866,635**.

**3.1** As regards **Claims 1 and 21** these claims are almost identical, except that **Claim 1** is for an apparatus and **Claim 21** is for a method.

**3.2** As regards **Claims 1 and 21** the *Fishman* reference teaches about a visual system for generating a CNC program for machining a part by an operator (aiding a machinist in preparing a programmed machine for a machining process) using an interface module (**Col. 3, lines 24-26, Figure 6, Col. 5, lines 19-22**). This program is prepared by inputting part information (machining variables) into a computer system (graphical user interface system) (**Col. 3, lines 60-65**), which is equivalent to the section of the claim concerning running a basic program "for setting values of various machining variables based on information input by the machinist". This part machining information is analyzed (analyzing means) by a process optimization module to optimize the efficiency of machining the part (**Col 6, lines 59-65**). One facet of the Fishman patent that is particularly pertinent to this application is that the process optimization module uses a material machinability database containing recommended material removal speeds as a function of tool parameters. This machinability optimization analysis can be presented to the operator (notify the machinist) to recommend or advise the operator about the

current efficiency or how to improve his machining process (**Figure 10**). This chart discloses an increase in machining speed per a selected drill tool diameter for work piece material type (High Speed Steel). The operator could stay with or modify his current machining variable selection to decrease machining time (increases in feet per minute) (**Col. 7, lines 14-19**).

The *Fishman* reference does not expressly disclose an advisory message to a machinist; after all the input is completed. The *Fishman* reference does disclose, the main output from Fishman to the machinist is a default machining program containing a sequence of operations which the machinist may change if he so desires.

The *Kahn et al.* reference discloses an expert system for selecting the best repair procedure among a plurality of repair procedures. The output of the system is a recommendation (notification) that selects the optimum procedure for the given input diagnostics.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the Fishman reference with the *Kahn et al.* reference because (*motivation to combine*) combining the output from *Fishman* with the recommendation (notification) system of *Kahn et al.* in order that the output from *Fishman* would be presented as an advisory message instead of a machining program. It would be obvious that the program displayed by the *Fishman* reference is based upon the optimization program (analysis means).

**3.3** As regards **Claim 13** the *Fishman* reference discloses a computer visual system for generating a CNC program for machining a part by an operator using an interface module (**Figure 6, Col. 3 Lines 24-26, Col. 5 Lines 19-22**). The program is prepared by the machinist inputting part information into a computer system (**Col. 3 Lines 60-65**), displaying the tool path and other information (**Col. 6 Lines 53-55**), a process optimization module, (**Col. 6 Lines 59-**



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65). The machinability optimization analysis can be presented to the operator to recommend or advise the operator about the efficiency or how to improve his machining process (**Figure 10**).

The *Fishman* reference does not expressly disclose an advisory message to the machinist wherein the machinist may change an operating parameter if he so desires.

The *Kahn et al.* reference discloses an advisory message displayed to a machinist wherein the machinist may change an operating parameter if he so desires (**Col. 14 Lines 66-67, Col. 15 Lines 1-5, Col. 21 Lines 5-11**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Kahn et al.* reference because (*motivation to combine*) the *Kahn et al.* reference teaches a method to interact with the user to solve problems and properly diagnose the observed problems (***Kahn et al. Col. 4 Lines 11-16***).

**3.4** As regards **Claims 2 and 14**, the *Fishman* reference teaches machinability optimization analysis which can be presented to the operator to recommend or advise the operator about the current efficiency or how to improve his machining process (**Figure 10, Col. 7 Lines 14-19**).

The *Fishman* reference does not expressly disclose, sending an advisory message.

The *Kahn et al.* reference discloses an advisory message displayed to a machinist wherein the machinist may change an operating parameter if he so desires (**Col. 14 Lines 66-67, Col. 15 Lines 1-5, Col. 21 Lines 5-11**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Kahn et al.* reference because (*motivation to*

*combine*) the *Kahn et al.* reference teaches a method to interact with the user to solve problems and properly diagnose the observed problems (*Kahn et al. Col. 4 Lines 11-16*).

**3.5** As regards **Claims 3 and 4**, the Fishman reference teaches about the machinability optimization module or analysis which can be presented to the operator on a visual display to recommend or advise the operator about the current efficiency or how to improve his machining process (**See Figure 10**). This chart discloses or notifies the operator of a plurality of "messages" in chart format of machine variable parameters from its computer memory from its analysis of machining speed per a selected drill tool diameter for the work piece material type (High Speed Steel) (**Col. 7, lines 14-19**).

The *Fishman* reference does not expressly disclose sending messages to a machinist; after all the input is completed, the main output from Fishman to the machinist is a default machining program containing a sequence of operations which the machinist may change if he so desires.

The *Kahn et al.* reference discloses an expert system for selecting the best repair procedure among a plurality of repair procedures. The output of the system is a recommendation (notification or displayed message) that selects the optimum procedure for the given input diagnostics. Kahn et al teaches also teaches about notes that are entered into memory to be used as output messages (**Col. 14 Line 66-67 and Col. 15 lines 1-5**) and messages that are to be displayed in response to analysis of input data (**Col. 21 lines 5-11**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Kahn et al.* reference because (*motivation to combine*) the *Kahn et al.* reference teaches a method to interact with the user to solve problems and properly diagnose the observed problems (*Kahn et al. Col. 4 Lines 11-16*).

**3.6** As regards **Claim 5** the *Fishman* reference discloses using an interface module or input device for setting machining variable values for its particular machining process, i.e., part face information which includes boundary, orientation, hole diameter and depth, and machining function to machine the part, (**Figure 8, Col. 5 lines 19-30, Col. 6 lines 1-5**). Once all this part face information is inputted into the system it is transferred to the process optimization module (analyzing means) for analysis (**Column 6 line 60**).

**3.7** As regards **Claim 6** the *Fishman* reference discloses an optimization software program or a simulation program that analyzes machining process data from information transferred or executed from the interface module (**Col 6 Lines 53-63**).

**3.8** As regards **Claims 7 and 15** the *Fishman* reference discloses the optimization modules' material machinability database which does analyze (analyzing means) or select the material cutting speeds and feed rate (rate of depth of cut) based on the face information supplied by the interface module (**Figure 1c, 7A, 7B, 7C, 8, 10, 11, 12, Col. 3 Lines 38-67, Col. 4 Lines 1-5**).

**3.9** As regards **Claims 8 and 16** the *Fishman* reference discloses Fishman the optimization modules' material machinability database which does analyze (analyzing means) or select the material's recommended cutting speeds from the specified face information supplied by the interface module. The operator can be notified by customized charts about the efficiency of the variable relationships for subsequent modification (**Col. 7 Lines 5-15**).

**3.10** As regards **Claims 9 and 17** the *Fishman* reference does disclose analyzing or selecting a recommended or an optimal spindle rotating speed during cutting operation (**Figure 11, Col. 7 Lines 5-34**).

4. **Claims 10, 11, 12, 18, 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fishman U.S. Patent 6,112,133** in view of **Cameron et al. U.S. Patent 5,412,583**.

4.1 As regards independent **Claims 1, 13, and 21** see the rejections in paragraph 3 above.

4.2 As regards **Claims 10, 12, 18 and 20** the *Fishman* reference does not expressly disclose an advisory message to the machinist to increase the speed of the cutting tool.

The *Cameron et al.* reference discloses an advisory message to the machinist (**Figure 11, Col. 4, Lines 56-58**) and a message to change the speed (**Figure 9, Col. 4 Lines 59-54, Col. 2 Lines 64-67**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Cameron et al.* reference because (*motivation to combine*) by prompting the user the machine tool being used can be operated in the most efficient manner (*Cameron et al. Col. 2 Lines 64-67, Col. 3 Lines 1-2*).

4.3 As regards **Claims 11 and 19** the *Fishman* reference discloses changing tools (**Figure 3a, Figure 5 Item 30, Col. 7 Lines 50-67**).

The *Fishman* reference does not expressly disclose sending the message to the operator to change the tool.

The *Cameron et al.* reference discloses an advisory message to the machinist (**Figure 11, Col. 4, Lines 56-58**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Cameron et al.* reference because (*motivation to combine*) by prompting the user the machine tool being used can be operated in the most efficient manner (*Cameron et al. Col. 2 Lines 64-67, Col. 3 Lines 1-2*).

5. **Claims 1, 13 and 21** are being rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamazaki et al. U.S. Patent 6,401,004** in view of **Cameron et al. U.S. Patent 5,412,583**.

5.1 As regards **Claims 1, 13 and 21** the *Yamazaki et al.* reference discloses an apparatus (**Figure 2 Item 25**) for aiding a machinist in preparing a programmed machine for a machining process (**Figures 2**) with a basic program (**Figure 4A, 4B, 4C**), with information stored in a tool data memory (**Figure 1 Item 6, Figure 2 Item 23**), a computer for executing a basic program to obtain values of various machining variables (**Figures 1, 2, 3**), an analyzing means for analyzing the variable values obtained during execution of the basic program to determine the efficiency of the machining process (**Figure 16 Lines 1-7**).

The *Yamazaki et al.* reference does not expressly disclose an advisory message to the machinist.

The *Cameron et al.* reference discloses an advisory message to the machinist (**Figure 11, Col. 4, Lines 56-58**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Cameron et al.* reference because (*motivation to combine*) by prompting the user the machine tool being used can be operated in the most efficient manner (*Cameron et al. Col. 2 Lines 64-67, Col. 3 Lines 1-2*).

**Conclusion**

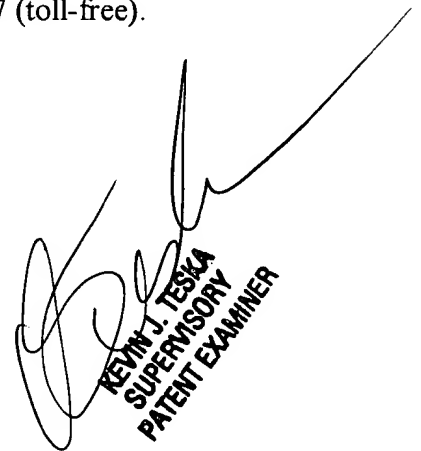
6. Claims 1-21 have been rejected. This action is **NON-FINAL**.

6.1 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is 703 305-7150. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC

  
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